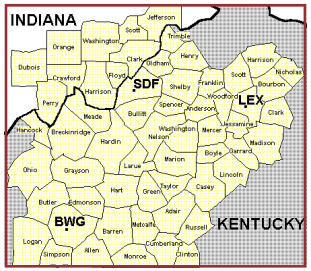
WHO WE ARE:

The National Weather Service (NWS) is a federal government agency under the Department of Commerce and National Oceanic and Atmospheric Administration (NOAA). There are 121 weather forecast offices (WFOs) across the U.S. and its territories. We are located in south-central Jefferson County, Kentucky near Smyrna Road and Interstate 265.

AREA OF RESPONSIBILITY:

WFO Louisville provides all forecast and warning services for 59 counties in central Kentucky and south-central Indiana. This region, called our County Warning Area (CWA) or Forecast Area (FA), covers five television media markets and a population of around 2.53 million people (as of last census). Our CWA includes Louisville, Lexington, Bowling Green, and Frankfort. Elevation ranges from 1680 ft above sea level in eastern Clinton County, Kentucky to 370 feet in Hancock County along the Ohio River.



WHO WORKS HERE:

A staff of 23 full-time employees work at WFO Louisville. Forecasters work rotating shifts. The office is staffed 24 hours a day, every day of the year. During major severe weather situations, there may be as many as 10 people working. During the summer, opportunities exist for volunteer internships for college students. Here are office position descriptions:

- **Meteorologist In Charge:** the "boss" in charge of the office.
- **Science and Operations Officer:** training, research, and operations program leader in the office.
- **Warning Coordination Meteorologist:** primary public relations person; office outreach program leader.
- **Observations Program Leader:** oversees the office observations and data collection program.
- **Electronic System Analyst:** office electronics program leader, including hardware maintenance.
- **Information Technology Officer:** computer programming and software maintenance program leader.
- **Lead Forecasters (5):** weather forecasts and warnings; shift supervisor in charge of operations.
- **Forecasters (5):** weather forecasts and warnings on shift.
- **Hydrometeorological Technicians (3):** observations and hydrological data collection/QC; interact with coop observers.
- **Service Hydrologist:** rivers and hydrology program leader.
- **Electronics Technicians (2):** maintenance on and upgrades to critical radar, observing, and computer systems.
- **Administrative Support Assistant:** administrative program leader.

OUR PARTNERS IN WEATHER:

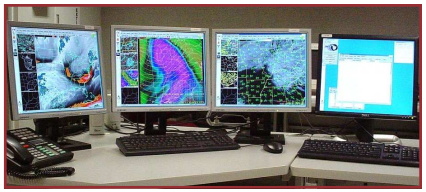
We work with numerous partnering organizations within the weather enterprise to help us in our mission to protect life and property:

- **Law Enforcement/Emergency Managers:** provide damage and impact information during hazardous weather, and formulate hazardous weather preparedness plans in conjunction with NWS.
- **TV Meteorologists:** valued partners during hazardous weather who convey NWS warnings and other information to the public.
- **Trained Spotters:** our "eyes" in the field who provide weather information to help us verify radar signatures. Training is offered in the late winter and spring, and is open to the public.
- **Cooperative Observers:** take daily weather observations which are fed into a national climate database.
- **Amateur Radio Operators:** provide invaluable instant communications during severe weather events.

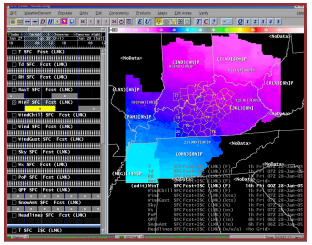
NWS TECHNOLOGY:

We use several state-of-the-art systems:

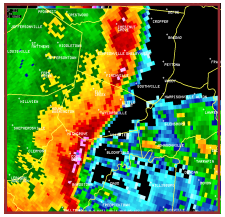
AWIPS: Interactive and versatile computer interface used to visualize data and issue all forecasts and warnings. We have seven Advanced Weather Information Processing System workstations. A multitude of information can be viewed simultaneously on each workstation.



GFE: Using AWIPS, NWS meteorologists issue forecasts via the Graphical Forecast Editor. Graphics of numerous weather elements are composed, then software generates textual forecasts from the images. Graphical forecasts also are uploaded to the National Digital Forecast Database (*www.nws.noaa.gov/ndfd*) for use by the public to make informed weather decisions.

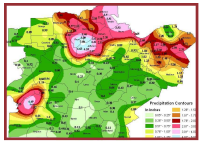


NWS Doppler Radar: The cornerstone of warning operations. Located at Ft. Knox, the radar reveals atmospheric wind patterns which lead to tornadoes and damaging winds. Powerful and sensitive, the radar gives us "super resolution" data to detect fine-scale phenomena within thunderstorms and other precipitating systems. Interestingly, it transmits only 5% of the time and "listens" for return echoes the remaining 95%. The radar's range is 248 nautical miles. We also use neighboring NWS Doppler radars to help us in storm analysis and warning.



HIGH IMPACT STORMS TO AFFECT OUR AREA:

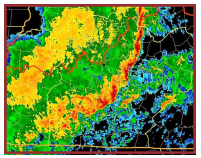
The Ohio Valley has its share of significant storms. Learn more about past storms on our website at *www.crh.noaa.gov/lmk/?n=past_events*. Here are a few examples:



04 August 2009 Flash Flood: Record-breaking rains fell in Jefferson County, KY and Floyd and Clark Counties, IN as thunderstorms regenerated over the area. 2-7 inches fell from 7-10 am EDT, especially in central Louisville, with up to 5 inches in 90 minutes! Nearly 200 people were rescued from cars and houses. Major flooding occurred at Churchill Downs, University of Louisville, main library, and elsewhere.

26-28 January 2009 Ice Storm: Prolonged freezing rain produced ice accumulations of 1.0-1.5 inches, causing widespread power outages and tremendous tree damage across much of Kentucky. Heavy snow fell at the end of the storm in Louisville. The storm produced Kentucky's worst power outage in history.

14 September 2008 Wind Storm: The remnants of Hurricane Ike moved through the Ohio Valley, producing non-thunderstorm peak wind gusts over 75 mph. Widespread power outages resulted, with up to 60% of Louisville residences being without power for nearly one week.

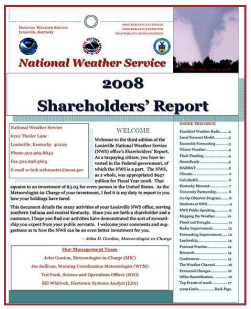


05-06 February 2008 Severe Weather: Historic outbreak across parts of the Ohio and Tennessee Valleys. Event produced over 85 tornadoes and extensive wind damage. In our area, there were at least 18 tornadoes, mostly short-lived EF0-EF2s, but also two longer-track EF3s. Narrow swaths of intense wind damage also were common along a dynamic squall line.

22-23 December 2004 Winter Storm: Up to 32 inches of snow fell in southern Indiana with thunder snow at times. Sleet up to 6 inches deep fell in parts of north-central Kentucky, and around an inch of ice devastated parts of central Kentucky.

YOU ARE AN NWS SHAREHOLDER:

As a federal government agency, we're here to serve your weather needs. Find out more about what we do at *your* National Weather Service in our Shareholders' Report at *www.crh.noaa.gov/lmk/?n=outreach*. Here, you'll also see posters of historical weather events in our area and office brochures. Meteorological training is available on our Science and Technology webpage.



PRODUCTS: For a full list and more information, see our "Products Guide" at *www.crh.noaa.gov/lmk/?n=productguide*.

Hazardous Weather

Watches: **severe thunderstorms, tornadoes, flooding, winter storms.** Conditions are *favorable* for development.

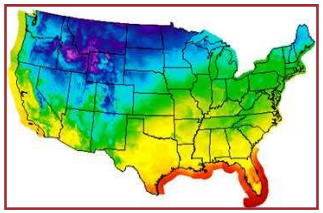
Warnings: **severe thunderstorms, tornadoes, flash floods, river floods, winter storms, wind chill, heat.** Event is *imminent or occurring*. Pose a threat to life and property.

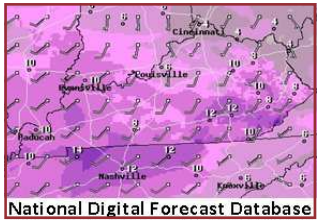
Advisories: **dense fog, high winds, winter weather, wind chill, heat.** Issued when these phenomena are a concern.

Hazardous weather outlook: overview of potentially hazardous weather for the next seven days. Issued several times daily.

Routine Public

Graphical and text forecasts: Using GFE (see *Technology* section), we compose graphical forecasts of numerous weather elements for the National Digital Forecast Database (below left). We also issue text forecasts as well as "point and click" forecasts, where you can obtain a unique, specific written forecast for any location within our county warning area. On our homepage, simply click on any point on the map below right.





National Digital Forecast Database

Area forecast discussion: summary of forecasters' thoughts concerning ongoing and upcoming weather, and model trends.

Point/area forecast matrices: provide specific numerical weather data for counties and selected cities in our forecast area.

Special weather statements: information for the next 1-3 hours. Issued for ongoing weather to heighten public awareness.

River and lake stage forecasts: for area rivers and lakes. Available on the Advanced Hydrologic Prediction Service (AHPS) webpage at *www.crh.noaa.gov/ahps2/index.php?wfo=lmk*.

Climate

Daily climate summaries: issued for Louisville, Lexington, and Bowling Green around 230 am and 430 pm each day.

Fire Weather

Planning forecasts and warnings: trends in relative humidity, winds, mixing, and precipitation. Used by state and federal forestry services. Red flag warnings may be issued if weather conditions may promote rapid wildfire spread.

Aviation

Terminal aerodrome forecasts: TAFS issued for Louisville International (SDF), Lexington (LEX), and Bowling Green (BWG). Provide a 24-hour forecast of weather conditions critical to pilots, including cloud height, visibility, wind, and precipitation. Issued routinely four times daily, but updated during changing conditions.

CRITERIA AND IMPACT: NWS hazardous weather products are issued based on established criteria. These criteria may be modified as needed to account for significant impact the weather may have on the community (e.g., an event at rush hour does not meet criteria but has a significant public impact). Criteria include:

Tornado Warning: a tornado on the ground or suspected based on radar trends.

Severe Thunderstorm Warning: storm wind gusts at least 50 kts (58 mph) and/or hail penny size or larger. Wind damage (trees/power lines down; structural damage) also makes a storm severe.

Flash Flood Warning: ongoing or expected flooding which presents an *immediate* danger to life and property.

Winter Storm Warning: snowfall of four inches or more and/or one-quarter inch or more of ice in a 12-hour period.

Winter Weather Advisory: snowfall of 1-4 inches and/or less than one-quarter inch of ice in a 12-hour period. Events are less intense than warning-level storms, but still cause travel hazards.

Dense Fog Advisory: fog reducing visibilities to around one-quarter mile or less which is hazardous to travel.

Wind Chill Advisory/Warning: wind chills of -10° F (advisory) or -25°F (warning), accompanied by winds of 10 mph or more.

Heat Advisory/Warning: heat indices around 105° F (advisory) or 110° F (warning). Criteria in eastern Kentucky is 100/105.

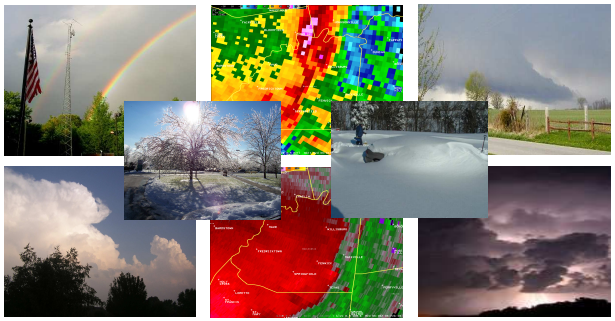
NOAA ALL-HAZARDS WEATHER RADIO: Official voice of the NWS which broadcasts forecasts and warnings, and other non-weather hazards as needed. A radio with Specific Area Message Encoder (SAME) technology can alert you of severe weather anytime of the day or night. Most electronics stores sell weather radios. For transmitter frequencies and counties, visit our weather radio webpage at *www.crh.noaa.gov/lmk/?n=weather_radio-lmk*.

USEFUL WEBSITES:

NWS Louisville: weather.gov/louisville
NWS Central Region: www.crh.noaa.gov/crh
NWS Headquarters: www.nws. noaa.gov
Storm Prediction Center: www.spc.noaa.gov
Hydromet. Prediction Center: www.hpc.ncep.noaa.gov
National Climatic Data Center: www.ncdc.noaa.gov

Louisville Weather Forecast Office

The National Weather Service provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters, and ocean areas for the protection of life and property and the enhancement of the national economy.



CONTACT US:

Phone: 502-969-8842 or 502-968-2676 (Mon-Fri only)
Mail: 6201 Theiler Lane, Louisville, KY 40229
Email: w-lmk.webmaster@noaa.gov
Web: weather.gov/louisville
Louisville Forecast: 502-968-6025
Lexington Forecast: 859-281-8131